

Wu-Sheng Lu

List of Publications by Year in descending order

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108
papers

1,908
citations

279798

23
h-index

302126

39
g-index

108
all docs

108
docs citations

108
times ranked

930
citing authors

#	ARTICLE	IF	CITATIONS
1	A weighted least-squares method for the design of stable 1-D and 2-D IIR digital filters. IEEE Transactions on Signal Processing, 1998, 46, 1-10.	5.3	138
2	Near-Optimal Hybrid Processing for Massive MIMO Systems via Matrix Decomposition. IEEE Transactions on Signal Processing, 2017, 65, 3922-3933.	5.3	128
3	An improved weighted least-squares design for variable fractional delay FIR filters. IEEE Transactions on Circuits and Systems Part 2: Express Briefs, 1999, 46, 1035-1040.	2.2	117
4	Linear Interpolation in Pilot Symbol Assisted Channel Estimation for OFDM. IEEE Transactions on Wireless Communications, 2007, 6, 1910-1920.	9.2	113
5	Optimal design of IIR digital filters with robust stability using conic-quadratic programming updates. IEEE Transactions on Signal Processing, 2003, 51, 1581-1592.	5.3	92
6	Design of two-dimensional digital filters by using the singular value decomposition. IEEE Transactions on Circuits and Systems, 1987, 34, 1191-1198.	0.9	78
7	Optimal design of frequency-response-masking filters using semidefinite programming. IEEE Transactions on Circuits and Systems Part 1: Regular Papers, 2003, 50, 557-568.	0.1	73
8	Joint Precoding Optimization for Multiuser Multi-Antenna Relaying Downlinks Using Quadratic Programming. IEEE Transactions on Communications, 2011, 59, 1228-1235.	7.8	69
9	Efficient iterative design method for cosine-modulated QMF banks. IEEE Transactions on Signal Processing, 1996, 44, 1657-1668.	5.3	66
10	MIMO Relaying Broadcast Channels With Linear Precoding and Quantized Channel State Information Feedback. IEEE Transactions on Signal Processing, 2010, 58, 5233-5245.	5.3	59
11	Analysis and minimization of L_2 -sensitivity for linear systems and two-dimensional state-space filters using general controllability and observability Gramians. IEEE Transactions on Circuits and Systems Part 1: Regular Papers, 2002, 49, 1279-1289.	0.1	58
12	Constrained minimum-BER multiuser detection. IEEE Transactions on Signal Processing, 2000, 48, 2903-2909.	5.3	49
13	Design of practically perfect-reconstruction cosine-modulated filter banks: a second-order cone programming approach. IEEE Transactions on Circuits and Systems I: Regular Papers, 2004, 51, 552-563.	5.4	41
14	An improved method for the design of FIR quadrature mirror-image filter banks. IEEE Transactions on Signal Processing, 1998, 46, 1275-1281.	5.3	37
15	An analytical approach for the synthesis of two-dimensional state-space filter structures with minimum weighted sensitivity. IEEE Transactions on Circuits and Systems Part 1: Regular Papers, 1999, 46, 1172-1183.	0.1	36
16	Two-dimensional digital filters with sparse coefficients. Multidimensional Systems and Signal Processing, 2011, 22, 173-189.	2.6	36
17	Image denoising by generalized total variation regularization and least squares fidelity. Multidimensional Systems and Signal Processing, 2015, 26, 243-266.	2.6	36
18	New Peak-to-Average Power-Ratio Reduction Algorithms for Multicarrier Communications. IEEE Transactions on Circuits and Systems Part 1: Regular Papers, 2004, 51, 1790-1800.	0.1	35

#	ARTICLE	IF	CITATIONS
19	Minimization of L_2 -sensitivity for state-space digital filters subject to L_2 -dynamic-range scaling constraints. IEEE Transactions on Circuits and Systems Part 2: Express Briefs, 2005, 52, 641-645.	2.2	35
20	L_2 -sensitivity minimization of one- and two-dimensional state-space digital filters subject to L_2 -scaling constraints. IEEE Transactions on Signal Processing, 2006, 54, 1804-1812.	5.3	33
21	Digital filters with sparse coefficients. , 2010, , .		33
22	A Unified Approach to the Design of Interpolated and Frequency-Response-Masking FIR Filters. IEEE Transactions on Circuits and Systems I: Regular Papers, 2016, 63, 2257-2266.	5.4	32
23	Roundoff noise minimization of state-space digital filters using separate and joint error feedback/coordinate transformation optimization. IEEE Transactions on Circuits and Systems Part 1: Regular Papers, 2003, 50, 23-33.	0.1	29
24	Optimal design of IIR frequency-response-masking filters using second-order cone programming. IEEE Transactions on Circuits and Systems Part 1: Regular Papers, 2003, 50, 1401-1412.	0.1	25
25	Design of recursive digital filters with prescribed stability margin: a parameterization approach. IEEE Transactions on Circuits and Systems Part 2: Express Briefs, 1998, 45, 1289-1298.	2.2	24
26	Jointly optimized error-feedback and realization for roundoff noise minimization in state-space digital filters. IEEE Transactions on Signal Processing, 2005, 53, 2135-2145.	5.3	22
27	An argument-principle based stability criterion and application to the design of IIR digital filters. , 0, , .		22
28	Jointly Optimal High-Order Error Feedback and Realization for Roundoff Noise Minimization in 1-D and 2-D State-Space Digital Filters. IEEE Transactions on Signal Processing, 2013, 61, 5893-5904.	5.3	21
29	A new method for the design of FIR quadrature mirror-image filter banks. IEEE Transactions on Circuits and Systems Part 2: Express Briefs, 1998, 45, 922-926.	2.2	20
30	Optimal design of FIR frequency-response-masking filters using second-order cone programming. , 0, , .		20
31	Practical Scheduling Algorithms for Concurrent Transmissions in Rate-adaptive Wireless Networks. , 2010, , .		20
32	Improved iterative methods for the design of quadrature mirror-image filter banks. IEEE Transactions on Circuits and Systems Part 2: Express Briefs, 1996, 43, 363-371.	2.2	18
33	Minimization of Frequency-Weighted L_2 -Sensitivity Subject to L_2 -Scaling Constraints for Two-Dimensional State-Space Digital Filters. IEEE Transactions on Signal Processing, 2008, 56, 5157-5168.	5.3	16
34	Analytical two-dimensional IIR notch filter design using outer product expansion. IEEE Transactions on Circuits and Systems Part 2: Express Briefs, 1997, 44, 765-768.	2.2	14
35	Unconstrained regularized ℓ_1 -norm based algorithm for the reconstruction of sparse signals. , 2011, , .		14
36	Design of signal-adapted biorthogonal filter banks. IEEE Transactions on Circuits and Systems Part 1: Regular Papers, 2001, 48, 90-102.	0.1	13

#	ARTICLE	IF	CITATIONS
37	Fast Weighted Total Variation Regularization Algorithm for Blur Identification and Image Restoration. IEEE Access, 2016, 4, 6792-6801.	4.2	13
38	A direct method for the design of 2-D nonseparable filter banks. IEEE Transactions on Circuits and Systems Part 2: Express Briefs, 1998, 45, 1146-1150.	2.2	11
39	A second-order cone programming approach for minimax design of 2-D FIR filters with low group delay. , 0, , .		10
40	Improved hot-spot location technique for proteins using a bandpass notch digital filter. , 2008, , .		10
41	Location of exons in DNA sequences using digital filters. , 2009, , .		10
42	Adaptive Power Allocation for Bidirectional Amplify-and-Forward Multiple-Relay Multiple-User Networks. , 2010, , .		9
43	A unified approach to stable adaptive force/position control of robot manipulators. , 0, , .		8
44	Separate/joint optimization of error feedback and coordinate transformation for roundoff noise minimization in two-dimensional state-space digital filters. IEEE Transactions on Signal Processing, 2003, 51, 2436-2445.	5.3	8
45	Digital Filter Design: Global Solutions via Polynomial Optimization. , 2006, , .		8
46	Design of Optimal Decimation and Interpolation Filters for Low Bit-Rate Image Coding. , 2006, , .		7
47	Design of FIR Filters with Discrete Coefficients via Polynomial Programming: Towards the Global Solution. , 2007, , .		7
48	Recovery of sparse signals from noisy measurements using an ℓ_1/ℓ_2 -regularized least-squares algorithm. , 2011, , .		7
49	Variable fractional delay FIR filters with sparse coefficients. , 2012, , .		7
50	Localization algorithms for asynchronous time difference of arrival positioning systems. Eurasip Journal on Wireless Communications and Networking, 2017, 2017, 64.	2.4	7
51	A New Minimax Design for 2-D FIR Filters with Low Group Delay. , 0, , .		6
52	Optimized numerical mapping scheme for filter-based exon location in DNA using a quasi-Newton algorithm. , 2010, , .		6
53	Reconstruction of block-sparse signals by using an ℓ_1/ℓ_2 -regularized least-squares algorithm. , 2012, , .		6
54	New algorithms for the derivation of the transfer-function matrices of 2-D state-space discrete systems. IEEE Transactions on Circuits and Systems Part 1: Regular Papers, 1997, 44, 112-119.	0.1	5

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55	An overlapping window decorrelating multiuser detector for DS-CDMA radio channels. IEEE Transactions on Communications, 2001, 49, 1488-1495.	7.8	5
56	Recursive multiuser detection for DS-UWB systems. , 0, , .		5
57	Minimization of Weighted Pole and Zero Sensitivity for State-Space Digital Filters. IEEE Transactions on Circuits and Systems I: Regular Papers, 2016, 63, 103-113.	5.4	5
58	Design of Least-Squares and Minimax Composite Filters. IEEE Transactions on Circuits and Systems I: Regular Papers, 2018, 65, 982-991.	5.4	5
59	Minimax design of FIR filters with low group delay using enhanced sequential quadratic programming. , 0, , .		4
60	Direct design of orthogonal filter banks and wavelets. , 2009, , .		4
61	Perfect histogram matching PCA for face recognition. Multidimensional Systems and Signal Processing, 2010, 21, 213-229.	2.6	4
62	Minimax design of stable IIR filters with sparse coefficients. , 2011, , .		4
63	Application of the Singular-Value Decomposition in the Design of Two-Dimensional Digital Filters. Control and Dynamic Systems, 1995, 69, 181-210.	0.1	3
64	Improved design of frequency-response-masking filters using enhanced sequential quadratic programming. , 0, , .		3
65	Symmetric extension for two-channel quincunx filter banks. , 2005, , .		3
66	Minimization of L_{∞} -Sensitivity for a Class of 2-D State-Space Digital Filters Subject to L_{∞} -Scaling Constraints. , 0, , .		3
67	State-Space Digital Filters with Minimum L_2 -Sensitivity Subject to L_2 -Scaling Constraints. , 0, , .		3
68	Computationally Efficient Digital Filters: Design Techniques and Applications. Circuits, Systems, and Signal Processing, 2006, 25, 125-130.	2.0	3
69	Adaptive Down-Scaling Techniques for JPEG-Based Low Bit-Rate Image Coding. , 2006, , .		3
70	Tuning technique for the location of hot spots in proteins using a bandpass notch digital filter. , 2009, , .		3
71	Global design of perfect-reconstruction orthogonal cosine-modulated filter banks. , 2010, , .		3
72	Roundoff Noise Minimization in State-Space Discrete-Time Systems Using Joint Optimization of High-Order Error Feedback and Realization. IEEE Transactions on Circuits and Systems I: Regular Papers, 2014, 61, 3460-3468.	5.4	3

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73	On optimal low-rank approximation of multidimensional discrete signals. IEEE Transactions on Circuits and Systems Part 2: Express Briefs, 1998, 45, 417-422.	2.2	2
74	An improved weighted least-squares design of FIR digital filters with variable fractional delay. , 0, , .		2
75	Design of FIR Digital Filters with Discrete Coefficients via Convex Relaxation. , 0, , .		2
76	Separate/joint optimization of error feedback and realization for roundoff noise minimization in a class of 2-D state-space digital filters. Multidimensional Systems and Signal Processing, 2007, 18, 327-339.	2.6	2
77	Smoothed p - 2 solvers for signal denoising. , 2012, , .		2
78	A unified approach to the design of interpolated and frequency-response-masking FIR filters. , 2016, , .		2
79	Design of composite filters with equiripple passbands and least-squares stopbands. , 2017, , .		2
80	Weighted L_2 sensitivity minimization of 2-D discrete systems. , 0, , .		1
81	Discretization-free method for designing variable fractional delay 2-D FIR filters. , 0, , .		1
82	New method for weighted low-rank approximation of complex-valued matrices and its application for the design of 2-D digital filters. , 0, , .		1
83	Jointly optimized error-feedback and realization for roundoff noise minimization in state-space digital filters. , 0, , .		1
84	Design of Optimal Quincunx Filter Banks for Image Coding. , 0, , .		1
85	Combined Adaptive and Averaging Strategies for JPEG-Based Low Bit-Rate Image Coding. , 2007, , .		1
86	An Effective Termination Criterion for the Rudin-Osher-Fatemi Algorithm for Image Restoration. , 2007, , .		1
87	Towards global design of orthogonal filter banks and wavelets. Canadian Journal of Electrical and Computer Engineering, 2009, 34, 145-151.	2.0	1
88	A new algorithm for compressive sensing based on total-variation norm. , 2013, , .		1
89	Design of projection matrix for compressive sensing by nonsmooth optimization. , 2014, , .		1
90	Penalty convex-concave procedure for source localization problem. , 2016, , .		1

#	ARTICLE	IF	CITATIONS
91	Minimization of L_2 -sensitivity for 2-D state-space digital filters subject to L_2 -scaling constraints. , 0, , .		0
92	Efficient design of perfect-reconstruction biorthogonal cosine-modulated filter banks using convex Lagrangian relaxation and alternating null-space projections. , 0, , .		0
93	Realization of MIMO linear discrete-time systems with minimum L_2 -sensitivity and no overflow oscillations. , 0, , .		0
94	Roundoff Noise Minimization for a Class of 2-D State-Space Digital Filters Using Separate/Joint Optimization of Error Feedback and Realization. Midwest Symposium on Circuits and Systems, 2006, , .	1.0	0
95	Design of FIR filters with discrete coefficients via sphere relaxation. , 0, , .		0
96	Design of Optimal Quincunx Filter Banks for Image Coding via Sequential Quadratic Programming. , 2007, , .		0
97	On Frequency-Weighted l_2 -Sensitivity Analysis and Minimization of 2-D State-Space Digital Filters Subject to l_2 -Scaling Constraints. , 2007, , .		0
98	Design of frequency-response-masking FIR filters using SOCP with coefficient sensitivity constraint. , 2008, , .		0
99	Histogram-enhanced principal component analysis for face recognition. , 2009, , .		0
100	Realization of 3-D separable-denominator digital filters with very low l_2 -sensitivity. , 2009, , .		0
101	Accelerated least squares contour alignment with a filtering process. , 2013, , .		0
102	Optimal design of composite digital filters using convex-concave procedure. , 2015, , .		0
103	Enhanced Steiglitz-McBride Procedure for Minimax IIR Digital Filters. , 2018, , .		0
104	Analysis and Minimization of l_2 -Sensitivity for Block-State Realization of IIR Digital Filters. IEICE Transactions on Fundamentals of Electronics, Communications and Computer Sciences, 2018, E101.A, 447-459.	0.3	0
105	Robust Digital Filters Part 1 – Minimax FIR Filters. , 2019, , .		0
106	Fast Nonnegative Matrix Factorization Using Nested ADMM Iterations. , 2019, , .		0
107	Roundoff Noise Minimization for a Class of 2-D State-Space Digital Filters Using Joint Optimization of High-Order Error Feedback and Realization. IEICE Transactions on Fundamentals of Electronics, Communications and Computer Sciences, 2014, E97.A, 1918-1925.	0.3	0
108	Analysis and Minimization of Roundoff Noise for Generalized Direct-Form II Realization of 2-D Separable-Denominator Filters. IEICE Transactions on Fundamentals of Electronics, Communications and Computer Sciences, 2020, E103.A, 873-884.	0.3	0